Attorney Docket No. 49950-59776
U.S.S.N. 09/885,297
Applicants: Ingram *et al.*

Examiner: Rao, Manjunath N.
Group Art Unit: 1652

In the Claims:

Please amend claim 44 and please add claims 111 and 112. The following listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-43 (Previously Cancelled)

44. (Currently Amended) A recombinant host cell suitable for degrading an oligosaccharide comprising:

a first heterologous polynucleotide segment encoding a first endoglucanase having a first degrading activity, wherein said segment is under the transcriptional control of a surrogate promoter; and

a second heterologous polynucleotide segment encoding a second endoglucanase having a second degrading activity, wherein said segment is under the transcriptional control of a surrogate promoter, and

a polynucleotide segment expressing an additional enzyme,

wherein said first endoglucanase and said second endoglucanase are expressed so that said first and said second degrading activities are present in a ratio such that the degrading of said oligosaccharide by said first and second endoglucanases is synergized

and wherein said first endoglucanase is encoded by *celZ* and said second endoglucanase is encoded by *celY*, and wherein *celZ* and *celY* ~~are derived~~comprise a polynucleotide segment isolated from *Erwinia*.

45. (Original) The recombinant host cell of claim 44, wherein said first endoglucanase or said second endoglucanase, or both said first and said second endoglucanases are secreted.

46. (Original) The recombinant host cell of claim 44, wherein said host cell is a bacterial cell.

47. (Original) The recombinant host cell of claim 46, wherein said host cell is selected from the family Enterobacteriaceae.

48. (Original) The recombinant host cell of claim 47, wherein said host is *Escherichia* or *Klebsiella*.

49. (Original) The recombinant host cell of claim 48, wherein said host cell is selected from the group consisting of *E. coli* B, *E. coli* DH5α, and *Klebsiella oxytoca*.

50. (Previously Cancelled)

51. (Previously Presented) The recombinant host cell of claim 44, wherein said additional enzyme is selected from the group consisting of glucanase, endoglucanase, exoglucanase, cellobiohydrolase, β-glucosidase, endo-1,4-β-xylanase, α-xylosidase, α-glucuronidase, α-L-arabinofuranosidase, acetylesterase, acetylxylanesterase, α-amylase, β-amylase, glucoamylase, pullulanase, β-glucanase, hemicellulase, arabinosidase, mannanase, pectin hydrolase, pectate lyase, or a combination thereof.

52. (Previously Presented) The recombinant host cell of claim 44, wherein said additional enzyme is an ethanologenic enzyme.

53. (Previously Presented) The recombinant host cell of claim 44, wherein said additional enzyme is an ethanologenic enzyme selected from the group consisting of pyruvate decarboxylase and alcohol dehydrogenase.

54. (Previously Cancelled)

55. (Original) The recombinant host cell of claim 44, wherein said first endoglucanase is EGZ and said second endoglucanase is EGY.

56. (Previously Presented) The recombinant host cell of claim 44, wherein said additional enzyme is a secretory enzyme.

57. (Original) The recombinant host cell of claim 56, wherein said secretory enzyme is a *pul* or *out* gene product.

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58. (Original) The recombinant host cell of claim 44, wherein said host cell is ethanologenic.

59. (Previously Presented) The recombinant host cell of claim 44, wherein said host cell is selected from the group comprising *E. coli* KO4 (ATCC 55123), *E. coli* KO11 (ATCC 55124), *E. coli* KO12 (ATCC 55125) and *E. coli* LY01 (ATCC 11303), and *K. oxytoca* P2 (ATCC 55307).

Claims 60-96. (Previously Cancelled)

Claims 97-99. (Previously Cancelled)

100. (Previously Cancelled)

Claims 101-102. (Previously Cancelled).

103. (Previously Cancelled)

104. (Previously Cancelled)

105. (Previously Cancelled)

Claims 106-110. (Previously Cancelled).

111. (New) The recombinant host cell of claim 44, wherein said first and second endoglucanases comprise a polypeptide purified from *Erwinia*.

112. (New) The recombinant host cell of claim 44, wherein said *celZ* and *celY* comprise a polynucleotide segment prepared by a process selected from the group consisting of direct cloning of a polynucleotide sequence isolated from *Erwinia*, PCR amplification of a polynucleotide sequence isolated from *Erwinia* and artificial synthesis using as template a polynucleotide sequence isolated from *Erwinia*.